

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MISSOURI  
EASTERN DIVISION

KARI JOHNSON, et al.,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	Case No. 4:07CV1695 CDP
	)	
AVCO CORPORATION, et al.,	)	
	)	
Defendants.	)	

**MEMORANDUM AND ORDER**

The parties have filed a number of motions for summary judgment and for sanctions and to exclude or limit expert testimony. This case arises from the crash of a private airplane in Indiana that resulted in the death of the pilot and all three passengers. Plaintiffs are the decedents' next of kin and personal representatives. They bring these wrongful death actions against the manufacturers of the airplane's engine and the maintenance company that overhauled the engine in 2001, alleging those defendants are liable under theories of negligence, strict liability, and misrepresentation.

Because genuine issues of material fact remain, I will deny most of the motions for summary judgment. I will grant defendants' motion for summary judgment with respect to plaintiffs' misrepresentation claims and their claims for decedents' pain and suffering, because these claims fail as a matter of law. I will

also dismiss certain plaintiffs from this action, because they are not the proper parties under Indiana law. Plaintiffs' motion for summary judgment on defendants' affirmative defenses of non-party fault is granted as to all non-parties other than the Wabash Municipal Airport and its related entities. Finally, I have determined that certain expert witnesses must be excluded from testifying, but otherwise I have denied the parties' motions to exclude, with minor limitations to the experts' testimony. I will deny all other motions.

### **Background**

On September 10, 2005, John and Kathleen Swan, along with their son, James Swan, and his friend, Vanessa Baer, were killed after their private airplane crashed near Wabash Municipal Airport in Wabash, Indiana. Lycoming, a defendant in this case, designed and manufactured the airplane's engine in the 1970s. Lycoming is a corporate subsidiary of defendant Avco Corporation, which is itself a corporate subsidiary of defendant Textron, Incorporated. Defendant Western Skyways performed significant maintenance on the engine in 2001.

Plaintiffs are decedents' personal representatives and next-of-kin. They filed this lawsuit in Missouri state court in September of 2007, bringing negligence, strict-liability, and misrepresentation claims against defendants. Defendants removed the case to this Court because of diversity of citizenship. I decided in November of 2009 that Indiana law applies to the issues of liability and

damages. Discovery is complete, and all parties now move for summary judgment and to exclude numerous expert witnesses. The Textron defendants also move for sanctions against plaintiffs.

Plaintiffs' theory of the case is that defendant Lycoming defectively designed the engine to include a fuel clamp with a synthetic rubber cushion, composed of polychloroprene, on top of a stainless steel fuel line. According to plaintiffs, engine vibrations and heat caused the rubber cushion over fuel line number five to degrade, allowing the aluminum clamp to scratch that fuel line. Additionally, heat caused the polychloroprene cushion to release chlorine ions that formed hydrochloric acid, which further corroded the fuel line. Eventually, a hole formed, releasing fuel and causing an in-flight fire that resulted in the accident. Plaintiffs also contend that defendant Western Skyways's alleged negligence contributed to the accident, because there is evidence that Western installed an aluminum fuel clamp over fuel line no. 5, instead of a stainless steel fuel clamp as directed by Lycoming. Plaintiffs also adduce evidence that Western improperly installed the engine's crankshaft, which contributed to the engine's vibrations. In response, defendants present evidence that pilot error was the cause of the accident. I will consider the parties' motions to exclude, for sanctions, and for summary judgment in turn.

## **Discussion**

### **I. *Daubert* Motions**

The parties have filed numerous *Daubert* motions directed to each other's experts. Federal Rule of Evidence 702 permits expert testimony if it "will assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. The expert must be qualified to give her opinions on the subject through "knowledge, skill, experience, training, or education," and the district court must consider (1) the factual basis of the expert's opinion, (2) the reliability of the method and application, and (3) the relevance of the testimony. *Id.*; *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592-93 (1993); *see also Unrein v. Timesavers, Inc.*, 394 F.3d 1008, 1011 (8th Cir. 2005) ("There is no single requirement for admissibility as long as the proffer indicates that the expert evidence is reliable and relevant."). I will first consider the merits of defendants' motions to exclude plaintiffs' experts, and then plaintiffs' motions to exclude defendants' experts.

#### **A. Plaintiffs' Experts**

##### **1. Dr. Richard McSwain**

Plaintiffs' expert Dr. Richard McSwain is a materials engineer with years of experience investigating the causes of airplane crashes for the United States military and as part of his own company. In this case, McSwain investigated the

accident airplane wreckage in his lab to determine the cause of the crash. Based on his tests and observations, McSwain concluded that engine vibrations and heat caused a hole in the engine's no. 5 fuel line, which allowed fuel to escape and cause an in-flight fire.

Defendants do not contend that McSwain is unqualified or that his opinions are not relevant, but instead assert that his opinions are unreliable. In determining whether a method or principle has been reliably applied, a court must be careful to examine methodology, and not the conclusions drawn from it. *Daubert*, 509 U.S. at 595. Methodology is reliably applied if the expert completes the required procedure, the data used is “typically” relied upon, and the expert does not fail to account for relevant variables. *See US Salt, Inc. v. Broken Arrow, Inc.*, 563 F.3d 687, 691 (8th Cir. 2009); *Synergetics, Inc. v. Hurst*, 477 F.3d 949, 956 (8th Cir. 2007); *Marmo v. Tyson Fresh Meats, Inc.*, 457 F.3d 748, 758 (8th Cir. 2006); *Blue Dane Simmental Corp. v. Am. Simmental Ass’n*, 178 F.3d 1035, 1040-41 (8th Cir. 1999).

Here, McSwain analyzed the airplane wreckage, including its engine, using stereomicroscopy, scanning electron microscopy, and x-ray spectroscopy. These tests revealed the presence of multi-directional contact marks on the no. 5 fuel line, and the transfer of aluminum particles onto that fuel line, which was composed of stainless steel. Based on these observations, McSwain concluded

that the engine had vibrated to such an extent that the chlorine-based rubber cushion degraded, and the aluminum fuel clamp over fuel line no. 5 scratched the fuel line. McSwain's tests also revealed the presence of pit marks on the fuel line, which he opined were formed after the aluminum clamp came into contact with the fuel line. To test whether the rubber cushion degraded because of engine vibrations or because of a post-crash fire, McSwain applied flame to exemplar cushions and clamps. Instead of degrading the way the aluminum clamp and rubber cushion degraded in this accident, the rubber in the exemplars turned to ash and the aluminum clamps melted.

McSwain also discovered the presence of chlorine at the perimeter of the hole in fuel line no. 5. Because McSwain had determined that the rubber cushion was composed of polychloroprene synthetic rubber, he opined that chlorine ions had been released from the rubber cushion at some point and had formed hydrochloric acid that corroded the stainless steel fuel line until a hole formed. Scientific literature shows that chlorine-containing elastomers, such as the rubber cushion in this case, "may cause corrosion and pitting of metal surfaces because of the formation of hydrochloric acid under the service conditions."

Finally, applying the National Fire Protection Association 422, a manual for investigating fires in airplane accidents, McSwain tested other parts of the accident wreckage to determine whether an in-flight fire had occurred. Because he

found aluminum deposits on the engine's firewall – indicating that aluminum was heated and melted, and then transferred by airflow to cooler areas of the plane where it was deposited – McSwain concluded that an in-flight fire occurred. Other evidence was found that supported this conclusion, including a melted oil sump case exhibiting fire damage that could have only formed the way it did if the airplane engine was upright, although the engine was recovered upside down at the crash location.

Defendants do not contend that McSwain's methodology in forming these opinions was unsound. Instead, they contend that all of these opinions are inadmissible because McSwain did not perform tests to determine (1) whether it was possible for the engine to vibrate to such an extent that the rubber cushion would degrade; and (2) whether the engine temperature could have reached levels that chlorine ions would be released from the rubber cushion and form hydrochloric acid capable of eating through stainless steel. Citing the Eighth Circuit's decision in *Polski v. Quigley Corp.*, defendants contend that McSwain's major premise – that engine vibrations and heat caused the hole to form – remains untested, and so his opinions are inadmissible. 538 F.3d 836, 839 (8th Cir. 2008). The expert in *Polski* was excluded because he failed to perform any tests to support his conclusion that defendant's product, a nasal spray, could cause plaintiffs' loss of the sense of smell. *Id.* Instead, the expert concluded that the

nasal spray could travel through the nasal cavity and reach plaintiffs' olfactory organ, based on "his own knowledge and expertise, his research, the research of others, and his observation that [defendant's product] deliver[ed] a straight line spray capable of traveling several feet." *Id.*

This case is distinguishable from *Polski*. Unlike the expert in *Polski* who failed to perform any testing, McSwain performed several tests to determine the cause of this airplane accident, including x-ray spectroscopy of the fuel line and other parts of the engine. Based on these tests and his knowledge and experience as an aircraft accident investigator, McSwain opines that engine vibrations and engine heat caused a hole to form in the fuel line, which resulted in an in-flight fire. McSwain's failure to perform the tests preferred by defendants is not a basis to exclude his opinions. *See Pugh v. Louisville Ladder, Inc.*, No. 08-2141, 2010 WL 55541, at \*7 (4th Cir. Jan. 5, 2010) (expert's testimony admissible even though expert failed (1) to analyze the likelihood of cracks forming in material used in defendant's product, and (2) to definitively establish whether cracks predated accident, because there was no evidence that testing actually performed by expert was unreliable, and "the alleged failure of [plaintiff's] experts to perform additional testing goes more to the weight of the expert testimony than to its *Daubert* admissibility.").



Finally, defendants contend that McSwain failed to account for certain facts in making his opinions, including the fact that the materials used in the plane are resistant to corrosion. However, it is well established within the Eighth Circuit that the factual basis of an expert's opinion generally "goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis in cross-examination." *Bonner v. ISP Techs. Inc.*, 259 F.3d 924, 928 (8th Cir. 2001) (quoting *Hose v. Chicago Northwestern Transp. Co.*, 70 F.3d 968, 974 (8th Cir. 1996)). Indeed, a district court may only exclude an expert's opinion when it is "so fundamentally unsupported that it can offer no assistance to the jury." *Id.* Because I determine that there is a sufficient factual basis for McSwain's opinions, I conclude that his opinions are admissible in their entirety. His failure to consider the resistance quality of materials used in the accident engines is a subject for defendants' cross-examination, but not a basis for his exclusion.

## **2. Donald Sommer**

Defendants next move to exclude plaintiffs' expert Donald Sommer, who investigated photographs of the accident wreckage and other evidence to determine the cause of the crash. Mr. Sommer has investigated over 1000 airplane accidents for thirty-five years. Notably, he investigated a commercial airplane crash for the State of Florida, and was part of a team of investigators who analyzed

the July 1996 TWA Flight 800 crash. In this case, Mr. Sommer reviewed photographs of the accident engine and its parts to determine if a fire occurred in-flight or after the crash, and made a flight-path reconstruction based on eyewitness testimony and radar information. Based on this investigation and the results of McSwain's testing, Sommer concluded that an in-flight fire occurred after fuel from the no. 5 fuel line escaped. Additionally, Sommer opines that the pilot, John Swan, was qualified to flight at night with three passengers. Because defendants challenge each of these opinions, I will consider each in turn.

#### Existence and Cause of an In-Flight Fire

Defendants first contend that Sommer is unqualified to testify about the existence and cause of an in-flight fire, because he has no formal training in fire origin analysis. However, it is well established that a witness may qualify as an expert because of knowledge, skill, or experience, *see* Fed. R. Evid. 702, and it is undisputed that Sommer has years of experience in investigating airplane accidents, including fire origin analysis. Second, defendants contend that Sommer failed to apply appropriate accident investigation and airplane fire origin investigation methodologies, because he testified at his deposition that he does not "use other people's standards." It is clear from reviewing Sommer's expert report and the other evidence, however, that Sommer did apply appropriate methodologies, including the International Civil Aviation Organization's (ICAO)

*Manual of Aircraft Accident Investigation* and the National Fire Protection Association (NFPA) 422 *Guide for Aircraft Accident/Incident Response Assessment*.<sup>1</sup>

Specifically, consistent with the ICAO manual, Sommer reviewed photographs of the accident wreckage and determined that the fire and instrument melting patterns indicated an in-flight fire. For example, these photographs revealed burn and melting patterns on parts of the wreckage that were downstream from what Sommer determined to be the source of the in-flight fire – the hole on fuel line no. 5. *See* National Fire Protection Association (NFPA) 422 *Guide for Aircraft Accident/Incident Response Assessment* § 6.2.1.8 (“Soot patterns are formed as a result of soot drifting with the air stream until it strikes an object to which it can attach itself . . . ”); *id.* § 6.1.3 (“In-flight fires are usually very hot, burn through metal parts, and leave less metal residue than ground fires. Analysis of the flow direction of molten metal deposits helps to distinguish in-flight fire

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<sup>1</sup>Defendants also claim that Sommer’s opinions are unreliable because he failed to apply the fire investigation methodology detailed in the National Fire Protection Association 921 *Guide for Fire and Explosion Investigations*. The NFPA 921 provides a methodology for terrestrial fire investigations, and the Eighth Circuit has held that the NFPA 921 “qualifies as a reliable method endorsed by a professional organization.” *Fireman’s Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1057-58 (8th Cir. 2005). Sommer’s failure to rely on this method does not make his opinions unreliable. The NFPA 921 is an authoritative guide for investigating ground fires, and both parties admit that the investigation of ground fires is different from the investigation of aircraft fires. As detailed above, Sommer applied a reliable methodology when he investigated this accident – NFPA 422, which provides an investigation methodology for aircraft fires. Sommer’s failure to apply NFPA 921 goes to the weight of his testimony, not its admissibility.

from ground fire.”). Sommer also reviewed statements from eyewitnesses who said they heard the accident engine sputter before it crashed, which, according to the ICAO manual § 6.3.1.3, indicates ignition failure or an interruption of fuel to the engine. Because Sommer’s report and testimony reveal that he applied a reasonable aircraft accident investigation methodology to the facts of this case, I conclude that his opinion that an in-flight fire occurred is admissible. *See* Fed. R. Evid. 702; *compare Pro Serv. Automotive, L.L.C. v. Lenan Corp.*, 469 F.3d 1210, 1214-16 (8th Cir. 2006) (district court did not abuse discretion in excluding plaintiff’s causation expert in part, because expert’s opinions were inconsistent with evidence); *Fireman’s Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1058-59 (8th Cir. 2005) (same).

Additionally, defendants move to exclude Sommer’s opinion that engine vibrations wore a hole in fuel line no. 5 causing fuel to escape and start a fire, because Sommer relied on Dr. McSwain’s findings and opinions in forming his own opinion. An expert may apply the results of another expert’s calculations, if a proper foundation is laid. *See Dura Auto. Sys. of Ind., Inc. v. CTS Corp.*, 285 F.3d 609, 613 (7th Cir. 2002). Here, the aircraft investigation methods employed by McSwain and Sommer provide for collaboration among several accident investigations when one has more expertise in a certain area. *See* ICAO Manual § 2.1 (providing that a team of “a trained investigator and a specialist qualified in a

particular aspect which requires expert examination” may be helpful when investigating aircraft accidents). Accordingly, Sommer may rely on McSwain’s conclusions on engine vibrations and the pre-crash existence of a hole in fuel line no. 5.

Defendants also contend that Sommer ignored key facts when he investigated this accident, including the presence of soot around fuel line no. 5. The NFPA 422 manual indicates that soot may not be found around the source of the fire, because the source is generally too hot for soot to stick. However, as detailed above, the factual basis for an expert’s opinion is generally a matter for cross-examination. *See Bonner*, 259 F.3d at 928. After reviewing his report and the other evidence, I conclude that Sommer’s opinions on the existence and cause of an in-flight fire, which are based on observations of the wreckage, witness statements, and McSwain’s findings, are not so fundamentally unsupported that I must exclude them. *See id.*

Next, defendants take issue with Sommer’s calculations of the engine’s fuel loss, and his opinion that the fuel combusted when it was exposed to the air, causing the in-flight fire. Sommer opined that one-third of the engine’s fuel could have escaped through the hole in fuel line no. 5, based on McSwain’s calculations that the hole was 0.045 inches in diameter at its largest point. McSwain also found that the hole was 0.035 inches in diameter in other parts. Defendants

contend the hole was much smaller, and so move to exclude Sommer's calculations of fuel loss based on his calculations of a 0.045-inch diameter. However, defendants do not contend that McSwain's measurements were incorrect, or that the formula Sommer used was incorrect, and mere disagreements with the assumptions an expert makes or the choice of which variables to consider are not grounds for exclusion. *Synergetics, Inc. v. Hurst*, 477 F.3d 949, 956 (8th Cir. 2007). Because the size of the hole is a disputed fact and defendants present no other evidence that Sommer's opinions are unreliable, his opinions on this subject are admissible.

Finally, defendants move to exclude Sommer's opinion that the fuel combusted and started an in-flight fire when it was exposed to the oxygen in the engine compartment. At his deposition, Sommer did not articulate what ratio of fuel-air mixture is necessary for the fuel to combust, but instead testified that airplane gas is flammable when exposed to air, which is consistent with the ICAO manual. Based on his experience investigating aircraft fires and this secondary literature, Sommer can testify that airplane gas is flammable. Defendants, of course, can cross-examine him on his failure to determine the exact ratio of fuel and air that would have caused the fire in this case.

### Remaining Opinions

Defendants next challenge Sommer's flight-path reconstruction, but I determine that this opinion is also admissible. Consistent with aircraft accident investigation manuals, Sommer relied on radar data and witness statements to determine the final path of the accident aircraft before it crashed. Defendants may cross-examine Sommer about any alleged inconsistencies with one witness's testimony, but his calculations are sufficiently based on the evidence to make them reliable. *See* Fed. R. Evid. 702; *see Bonner*, 259 F.3d at 928.

I conclude, however, that defendants' two remaining challenges to Sommer's testimony have merit. First, Sommer's opinion that smoke from the in-flight fire entered the cockpit is unreliable. Sommer formed this opinion after he concluded that (1) there was an in-flight fire, (2) the flight path indicates that the pilot was "having major issues," and (3) the passenger door was found in a condition suggesting that a passenger opened it. The existence of an in-flight fire, without more, does not sufficiently support his opinion that smoke entered the cockpit. Moreover, Sommer's conclusion that a passenger must have opened the passenger door because smoke entered the cockpit is too speculative to be admissible. Even if the evidence that the door was opened was uncontroverted – and it is not – there is no reliable evidence that the door was opened because smoke entered the cockpit, and experts may not testify as to a person's state of

mind. *See Garrett v. Albright*, No. 06-CV4137-NKL, 2008 WL 697590, at \* 4 (W.D. Mo. Mar. 11, 2008). Similarly, Sommer's opinion that the flight path indicates that the pilot was distracted by smoke goes too far into the realm of testimony about the pilot's state of mind to be admissible. *See id.* Finally, in the absence of this speculative evidence, there is nothing else to support this conclusion, and all the other evidence indicates that no smoke entered the cockpit. Indeed, an autopsy of pilot Swan revealed no evidence of smoke inhalation in his lungs.

Second, Sommer's opinion that pilot John Swan was qualified to fly at night with three passengers is inadmissible because there is an insufficient factual basis for this opinion. Instead, Sommer came to this conclusion after interviewing a friend of the pilot John Swan. Swan allegedly told this friend that Swan had flown a couple of times in the evening before the night of the crash. This account, based on hearsay, is the only basis for Sommer's conclusion, and without more, I conclude there is insufficient evidence to support Sommer's opinion.

Accordingly, Sommer may not testify that (1) smoke entered the cockpit before the airplane crashed; and (2) pilot Swan was qualified to fly at night. Defendants' motions to exclude are denied in all other respects.



### **3. Patrick McGinley**

Defendants move to exclude the opinion testimony of plaintiffs' expert Patrick McGinley in its entirety, because they contend he is unqualified to opine on aircraft accident and fire investigations. I agree. In this case, McGinley opines that an in-flight fire occurred after fuel escaped from the hole in fuel line no. 5. Like Sommer, McGinley came to that conclusion after reviewing the aircraft wreckage. However, unlike Sommer, McGinley does not have years of experience investigating aircraft accidents and fires, and he did not apply the relevant aircraft accident investigation methods.

First, although McGinley has many years of experience in ground fire investigation, McGinley has little experience investigating aviation accidents and fires. McGinley admitted in his deposition that, aside from this case, he has investigated only one aircraft accident to determine if a fire occurred in-flight, and his resume does not list any training or experience in this area. According to the ICAO manual for aircraft accident investigations, "[a]ircraft accident investigation is a highly specialized task which should only be undertaken by trained personnel possessing many qualities . . . The investigator must have a good sound working knowledge of aviation and factors which affect operations as a whole." § 1.1 (emphasis in original); *see also* National Fire Protection Association 422 § 10.2 ("Air crash investigation requires an extensive background in aviation on the part

of the investigator.”). Although it is undisputed that McGinley has expertise in terrestrial fires, his inexperience with aircraft accident and fire investigations renders him unqualified to opine on the existence and origin of an in-flight fire in this case. *See* Fed. R. Evid. 702; *Wheeling Pittsburgh Steel Corp. v. Beelman River Terminals, Inc.*, 254 F.3d 706, 714-15 (8th Cir. 2001) (expert not qualified to testify about safe warehousing practices along a river because he had no formal training or experience in that area, even if he was “eminently qualified to testify as an expert hydrologist regarding matters of flood risk management”).

Second, McGinley did not apply a reliable methodology, such as the NFPA 422, when investigating photographs of the accident wreckage. Instead, he relied on the NFPA 921, which establishes fire investigation techniques for terrestrial fires. As discussed above, however, there are important differences between terrestrial fires and aviation fires, and the NFPA 921 does not establish investigation methods for aircraft fires. For example, the NFPA 422 provides a methodology for analyzing burn patterns that takes into account the effect of airflow over the fire in an airplane, but the NFPA 921 does not. *Compare* NFPA 422 ch. 6 (detailing evidence – including soot patterns and metal deposits an investigator can look for to determine whether a fire occurred in-flight or post-crash), *with* National Fire Protection Association 921, *Guide for Fire and*

*Explosion Investigations* ch. 25 (providing guidance for interpreting burn patterns in automobiles, but not airplanes).

McGinley's failure to apply an appropriate methodology when investigating this accident and his lack of expertise in aviation fire investigations make his opinion about the cause and existence of an in-flight fire unreliable. Accordingly, I will grant defendants' motions to exclude his testimony in its entirety.

#### **4. Mark Seader**

Plaintiffs' expert Mark Seader is an experienced aircraft mechanic who owns an aircraft engine and accessories overhaul business. Seader is expected to testify in rebuttal that, in his years of experience with aircraft maintenance, he has seen several fuel lines rejected from service for reasons other than those discussed by defendants' experts, including because of corrosion from engine vibrations. He also sent exemplar rejected fuel lines to McSwain for analysis on whether those rejected fuel lines were similar to the no. 5 fuel line in the accident engine. After reviewing the motions and evidence, I am concerned that there is no evidence suggesting that the rejected lines Seader observed or sent to McSwain for testing are the same as or even similar to the fuel lines used in the accident engine. The lack of evidence connecting these lines with fuel line no. 5 potentially makes Seader's testimony irrelevant. However, because Seader is a rebuttal witness, I will

deny defendants' motion at this time and will consider whether his testimony is admissible based on the other evidence presented at trial.

## **5. Remaining Plaintiffs' Experts**

Because I determine that the remaining plaintiffs' experts possess the required expertise and have applied reliable methods to the facts of this case to form their opinions, I will deny defendants' motions to exclude them from testifying in this case. I also have determined, however, that these experts may not opine on some matters for the following reasons.

### **a. Allen Fiedler**

Allen Fiedler investigated the accident for plaintiffs by examining and photographing the accident wreckage. Based on his review of the wreckage and his application of aircraft accident investigation methodologies, Fiedler opined that an in-flight fire caused the airplane crash in this case. Fiedler is qualified to testify on most of the matters contained in his report because of his experience in aircraft accident investigation. He has investigated over 2100 aircraft accidents and fires for over thirty years. Although Fiedler may state his opinion about engine vibrations in this crash, he may not testify about the presence of engine vibrations in a different Lycoming engine model than the one used in the accident airplane. That testimony is not relevant, and so must be excluded. *See Fed. R. Evid. 702.* Finally, Fiedler may not testify that the engine's right magneto was a

possible source of the fire. At his deposition, Fiedler gave this opinion, but then testified that he would rely on Sommer's conclusions on that point. Because Sommer did not point to the magneto as the fire's source, and Fiedler did not have any independent basis from which to form this opinion, he may not testify about it at trial.

**b. Arthur Coffman**

Arthur Coffman has expertise in aircraft maintenance and accident investigations, and will testify that defendant Western Skyways made several errors while overhauling the engine in 2001, and that these errors contributed to the crash. Defendants move to exclude Coffman's testimony that (1) the fire damage is consistent with an in-flight fire caused by a fuel leak from the no. 5 fuel line; (2) engine vibrations caused holes in Lycoming-manufactured fuel lines; and (3) the chlorine-based rubber cushion was corrosive to the stainless steel fuel line. Defendants contend Coffman is unqualified to offer these opinions because he stated at his deposition that he had no expertise in these areas.

Experts may rely on the results of another expert's investigations, if a foundation is laid showing that they are qualified to do so. *See Dura*, 285 F.3d at 613. As discussed above, relevant aircraft accident manuals provide that accident investigators may rely on other experts' determinations to aid them in their own investigations. Because Coffmann applied the results of Dr. McSwain's and

Sommer's investigations within the context of his investigation into the maintenance of the accident aircraft, he may testify on these issues. However, after reviewing Coffman's report, I determine that he may not testify about holes caused by engine vibrations in Lycoming fuel lines in the 1960s. This testimony is not relevant, because there is no evidence that these fuel lines were the same Lycoming parts as used in this case. Moreover, Coffman, who admittedly has no expertise in this area, does not point to any other expert's conclusion or scientific literature supporting his conclusion that engine vibrations caused holes in those cases. Accordingly, he may not testify on this subject.

**c. Dr. Brian Frist**

Defendants move to exclude all of Dr. Brian Frist's opinions on decedents' conscious pain and suffering and the survivability of the crash, including his specific opinions on occupant kinematics and the presence of carboxyhemoglobin in the decedents' bodies. As plaintiffs concede, these issues are no longer relevant in this case, because Indiana law does not recognize survival claims if a decedent dies of the injuries allegedly caused by the accident, and her representatives pursue a wrongful death action. *See* Ind. Code. § 34-9-3-4; *Cahoon v. Cummings*, 734 N.E.2d 535, 544 (Ind. 2000). Accordingly, defendants' motions will be granted to the extent that Frist may not testify on issues relevant to decedents' pain and suffering or the survivability of this crash. However, Dr. Frist is qualified to

opine on the issue of whether the pilot Swan had a seizure during the flight, and defendants do not challenge his opinions on that matter. Because this testimony is relevant to the issue of causation in this case, Frist may testify on these matters.

**d. William Partin**

William Partin is plaintiffs' expert on damages. Defendants raise several challenges to his testimony, but I determine that only two of those challenges have merit under *Daubert* and its progeny. First, plaintiffs plan to present evidence through Partin of the value of the lost household services of John and Kathy Swan to each other. In other words, Partin will testify to the value of Kathy Swan's household services to John Swan, as if John had incurred them because of Kathy's death, and vice versa. However, John and Kathy died simultaneously, and neither suffered any loss of household services because of the death of the other.

Although I can find no decisions from Indiana courts touching on this issue, I conclude that an Indiana court would not allow recovery for these losses, because neither spouse actually suffered them. *See* Ind. Code 34-23-1-1; *In re Estate of Pickens*, 263 N.E.2d 151, 155 (Ind. 1970) (purpose of wrongful death statute was "to create a cause of action to provide a means by which those who have sustained a loss by reason of the death may be compensated."). Partin's testimony about these hypothetical losses is not relevant to any issue in this case. Accordingly, defendants' motions are granted to the extent that Patrin may not testify about the

loss of household services suffered by John and Kathy Swan because of the death of the other.

Second, as plaintiffs admit, evidence about decedent Vanessa Baer's lost earnings is no longer relevant in this case because Indiana law does not allow recovery for Baer's lost earnings. Because she was unmarried and had no dependents, Baer is considered a "child" under the Indiana child wrongful death law, Ind. Code § 34-23-2-1, and, accordingly, only certain damages are recoverable for her death, including:

- (1) for the loss of the Baer's services;
- (2) for loss of the Baer's love and companionship; and
- (3) to pay the expenses of:
  - (A) health care and hospitalization necessitated by the wrongful act or omission that caused Baer's death;
  - (B) Baer's funeral and burial;
  - (C) the reasonable expense of psychiatric and psychological counseling incurred by a surviving parent . . . that is required because of Baer's death;
  - (D) uninsured debts of Baer's estate, including reasonable attorney's fees.

*Id.* Because Partin only opined on Baer's lost earnings, he offers no relevant testimony on Baer. Accordingly, any of his opinions about damages suffered by Baer's parents because of her death is inadmissible.



## **B. Defendants' Experts**

### **1. Scott Shappell**

Defendants have retained Scott Shappell to provide an expert opinion on whether pilot error caused the crash at issue in this case. Shappell is an expert in Human Factor Analysis and aviation psychology. Under the facts of this case, Shappell's Human Factor Analysis testimony provides nothing more than speculation based on statistical possibilities about what pilot Swan and the passengers on the plane might or might not have been thinking or doing just before the crash. His opinions are neither based on sufficient facts or data, nor the product of reliable principles and methods. I will therefore exclude his testimony in its entirety.

Human Factor Analysis focuses on the role of human error in accidents from an institutional perspective. In HFA an investigator will consider organizational influences, unsafe supervision, preconditions for unsafe actions, and finally the unsafe acts of individuals, such as pilots, to classify the cause of a crash. By compiling data on those various factors, HFA may aid in reducing future aircraft accidents by focusing aircrew training and procedures on factors believed to contribute to crashes. HFA is a useful tool for categorizing different types of skill-based errors (breakdown in visual scan, over-controlled aircraft, etc.), decision errors (wrong response to emergency, improper procedure, etc.), and perceptual

errors (visual illusion, vertigo, etc.), so that data may be compiled and used to improve training and safety procedures. Although HFA may be helpful in improving flight safety, it does not aid the jury in determining what actually happened here.

Under *Daubert*, an expert's opinion must be based on the facts normally relied upon in the field, and the opinion must fit the facts of the particular case. *Daubert*, 509 at 592; *Blue Dane Simmental Corp. v. American Simmental Ass'n*, 178 F.3d 1035, 1040-41 (8th Cir. 1999). Additionally, an expert's opinion must have a "reliable basis in the knowledge and experience of his discipline." *Daubert*, 509 U.S. at 592. Shappell's opinions fail all of these basic tests of admissibility.

For example, Shappell wishes to testify that pilot Swan "forgot" to turn on the runway lights and "forgot" to turn on his landing lights because he had a lack of recent night flight experience. Shappell's basis for this opinion is that witnesses reported seeing no lights, and other evidence indicates that Swan may not have flown at night recently. Whether the lights were on and whether Swan had recent night flying experience are facts (possibly disputed, but facts nevertheless) that do not require expert testimony. Shappell states that HFA supports his conclusion because HFA studies have shown that inexperienced pilots forget things, therefore, Swan must have forgotten to turn on the lights.

Similarly, he wishes to opine that pilot Swan “felt pressure to land” at Wabash airport. Shappell bases this “opinion” on HFA studies that he says show that sometimes people take risks when they are eager to get home, and sometimes passengers put pressure on pilots when they are eager to get home.

There is no scientific basis for using HFA to determine a pilot’s subjective state of mind by considering this sort of “evidence.” We do not allow witnesses to tell juries that in their expert opinion something happened simply because it is possible, and nothing in HFA supports a claim that Shappell’s opinions are anything more than possibilities in this case. Shappell might as well “opine” that Swan must have been at fault because the plane crashed. This is not science.<sup>2</sup>

Most troubling, Shappell wishes to testify that Swan “succumbed to the height illusion,” from a “black hole approach.” But absent some actual evidence (for example, pilot communications with the control tower) HFA does not provide an investigator with a method of intuiting from a flight altitude, time of day, flight path, or wreckage pattern that a pilot succumbed to a spatial illusion rather than some other error, and it certainly does not rule out an aircraft malfunction. Instead, HFA merely provides an investigator with a method of classifying an accident caused by a spatial illusion as a perceptual error, rather than a decision or

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<sup>2</sup>I recognize that there may be circumstances where HFA may provide a basis for expert testimony, *see In re Air Crash at Lexington*, No. 5:07CV320, 2009 WL 1764738 (E. D. Ky. June 19, 2009), but this is not such a case.

skill-based error, after a spatial illusion has been established by other evidence from the investigation. Again, while categorizing errors and compiling databases may be helpful for training pilots in things they need to be aware of for preventing future crashes, HFA would not aid the jury in deciding what happened here.

HFA does no more than provide a list of possible causes of the crash. Shappell's opinions are not supported by any reliable methodology and will not be helpful to the jury. Shappell's testimony is no more than "subjective speculation that masquerades as scientific knowledge." *Glastetter v. Novartis Pharmaceuticals Corp.*, 252 F.3d 986, 989 (8th Cir. 2001). As a result, his testimony will be excluded.

## **2. William Jeffrey Edwards**

Defendants' expert William Jeffrey Edwards is expected to opine that John Swan's pilot error caused the crash. Edwards is an aviation safety consultant and accident investigator with many years of experience. He is also an experienced pilot. This opinion is based on Swan's qualifications as a pilot, the absence of evidence indicating a mechanical malfunction, accident reconstruction data, and the fact that, according to eye witness testimony, Swan's landing approach did not conform to standard procedures. He also notes that, according to certain statistics, this type of accident is frequently caused by pilot error.

Plaintiffs seek to exclude Edwards as an expert on several grounds, and I conclude that one of these grounds has merit. Specifically, plaintiffs claim that Edwards' testimony constitutes an impermissible legal conclusion. "[E]xpert testimony on legal matters is not admissible." *Southern Pine Helicopters, Inc. v. Phoenix Aviation Managers, Inc.*, 320 F.3d 838, 841 (8th Cir. 2003). In his report, Edwards states that Swan violated federal regulations when he carried passengers during a night flight. Whether Swan was qualified to carry passengers depends, in part, on how frequently Swan had practiced night landings. Whether Swan had sufficiently practiced night landings is a question of fact that the jury will decide based on the remains of Swan's logbook and other evidence submitted at trial. Edwards's conclusion on this issue is not helpful to the jury, and he may not opine that Swan violated the regulations. He may discuss the evidence indicating that Swan had not sufficiently practiced night landings and he may discuss the requirements outlined in the regulations, but he may not opine about whether Swan in fact violated the regulations.

### **3. Dr. Alan Parmet**

Defendants' expert, Dr. Alan Parmet is a medical doctor with years of experience in aerospace medicine and as a flight surgeon. He is expected to testify that (1) Swan was a relatively inexperienced pilot; (2) Swan encountered Type II spatial disorientation and a "black-hole" approach when attempting to

land; (3) the crashworthiness of the accident airplane and the survivability of the crash; and (4) that Swan had a seizure during the flight. Parmet may not testify to the things listed as (2) and (3).

Parmet's proposed testimony includes his opinion that the pilot John Swan had spatial disorientation and suffered from a "black-hole" approach when he attempted to land. In his report, Parmet defines spatial disorientation as "a state characterized by an erroneous orientational percept, i.e., an erroneous sense of one's position and motion relative to the plane of the Earth's surface." He also describes the three types of spatial disorientation, defining Type I, from which he alleges Swan suffered, as when "the pilot does not consciously perceive any manifestations of disorientation." Finally, he defines the black hole approach as "night conditions with inability to determine horizon due to a multiplicity of lights on the ground . . . resulting in inappropriate identification of the horizon and airport." After detailing these two conditions in his report and the fact that it was night when the crash occurred, Parmet concludes that Swan "had Type I disorientation with a black hole approach . . ."

Although Parmet may be qualified to opine on spatial disorientation and the "black-hole" approach, I conclude that his opinions in this case are unreliable, because Parmet insufficiently applies these theories to the facts of this case. Specifically, aside from the fact that Swan flew at night and the plane crashed, Dr.

Parmet cites to no other facts from this case that support these conclusions.

Moreover, like Shappell, Parmet is opining both on Swan's subjective state of mind, and that Swan's state of mind was a cause of this crash. This is speculation, and, as discussed above, experts may not opine on a person's state of mind. *See Garrett*, 2008 WL 697590, at \* 4. Accordingly, Parmet may not testify at trial that Swan suffered from Type I spatial disorientation, or that he encountered a black-hole approach when landing.

Finally, as discussed above in reference to plaintiffs' expert Frist, evidence about occupant kinematics and decedents' conscious pain and suffering before death is no longer relevant in this case. Accordingly, Dr. Parmet's testimony about the survivability of this plane crash, including the occupant kinetics and crashworthiness of the accident airplane, must also be excluded.

### **3. Remaining Defendants' Experts**

After reviewing plaintiffs' remaining motions to exclude defendants' experts Thomas Eager, Robert Winn, and Dr. Dan Heffez, I conclude that these motions are without merit. These experts possess the required expertise and have applied reliable methods to the facts of this case to form their opinions. As a result, these motions will be denied.

I will now consider the parties' motions for sanctions and for summary judgment.

## **II. The Textron Defendants' Motion for Sanctions**

The Textron defendants first move for sanctions, requesting that I dismiss this case with prejudice, or, alternatively, bar plaintiffs from presenting their theory of liability, because, they claim, plaintiffs intentionally and in bad faith failed to preserve the rubber clamp cushion over fuel line no. 5. Defendant Western Skyways responds to this motion in partial concurrence, but asserts that there is no evidence of plaintiffs' intentional misconduct or bad faith. After reviewing the filings and evidence before me, I conclude that this motion is not well taken.

The rubber clamp cushion was burned in the post-crash fire in the airplane, and defendants have not been able to test the cushion in its original, pre-crash form. Plaintiffs have adduced evidence that the cushion turned to ash because of the fire, and the ash fell away from the aluminum clamp when plaintiffs' and defendants' agents were inspecting it. The inspection was videotaped, and a representative of defendants was present during the inspection. All debris that fell to the floor after the inspection was preserved. Nevertheless, neither party can identify the cushion remains from the material that still exists.

Within the Eighth Circuit, a district court may dismiss an action as a sanction for spoliation of evidence only if the court makes the finding that plaintiff intentionally destroyed the evidence, "indicating a desire to suppress the truth."



*Menz v. New Holland N. Am., Inc.*, 440 F.3d 1002, 1006 (8th Cir. 2006) (quoting *Stevenson v. Union Pac. R.R. Co.*, 354 F.3d 739, 746 (8th Cir. 2004)).

There is no evidence of plaintiffs' intentional destruction of this evidence. The Textron defendants themselves admit there is no direct evidence of plaintiffs' intentional destruction, but instead assert that the facts that (1) the cushion was not preserved, and (2) plaintiffs did not produce the cushion to them, are sufficient circumstantial evidence for me to conclude that plaintiffs intentionally destroyed it. I disagree. The sanctions requested by the Textron defendants are extreme, and defendants' arguments of bad faith and intentional misconduct are far from sufficient for me to dismiss this case or enter any other sanctions. Although defendants present evidence that they have been prejudiced in their defense by the absence of this cushion, mere prejudice is insufficient for me to dismiss a case as a sanction for lost evidence. *See id.* (declining to adopt an "extreme prejudice" exception to the rule that a district court must find bad faith before sanctioning a plaintiff for spoliation of evidence). Accordingly, their motion is denied.

### **III. The Textron Defendants' Motion for Summary Judgment**

The Textron defendants move for summary judgment on several grounds, which I will consider in turn. The standards for summary judgment are well settled. In determining whether summary judgment should issue, the court must view the facts and inferences from the facts in the light most favorable to the

nonmoving party. *Matsushita Elec. Indus. Co. Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). The moving party has the burden to establish both the absence of a genuine issue of material fact, and that it is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); *Anderson v. Liberty Lobby Inc.*, 477 U.S. 242, 247 (1986); *Celotex Corp. v. Carrett*, 477 U.S. 317, 322 (1986). Once the moving party has met this burden, the nonmoving party may not rest on the allegations in the pleadings but must set forth by affidavit or other evidence specific facts showing that a genuine issue of material facts exists. Fed. R. Civ. P. 56(e). At the summary judgment stage, I will not weigh evidence and decide the truth of the matter, but rather I need only determine if there is a genuine issue of material fact. *Anderson*, 477 U.S. at 249.

#### **A. Indiana Law Issues**

Defendants move for summary judgment on several of plaintiffs' claims that are no longer actionable, because I have decided that Indiana law applies to the issues of liability and damages in this action. Plaintiffs respond that these claims should be dismissed under Fed. R. Civ. P. 12(b)(6) instead of Rule 56. I disagree. After reviewing the entire record, I conclude that, as a matter of law, defendants are entitled to summary judgment on plaintiffs' claims for punitive damages and for decedents' conscious pain and suffering. *See generally Durham ex rel. Estate of Wade v. U-Haul Intern.*, 745 N.E.2d 755 (Ind. 2001) (Indiana law does not

allow punitive damages awards in wrongful death actions); *see also* Ind. Code § 34-9-3-4 (“The Survival Statute”); *Cahoon*, 734 N.E.2d at 544 (“The survival statute precludes recovery on both a wrongful death claim and a survival claim.”). Additionally, Indiana’s wrongful death statute allows only the personal representatives of decedents’ estates to recover damages on behalf of surviving spouses, dependent children or next of kin, and service providers such as hospitals. Ind. Code § 34-23-1-1. Because plaintiffs Kari Johnson and Dundee Graves are not the personal representatives of decedents John and Kathy Swan and James Swan, they must be dismissed from this action.

### **B. Textron’s Liability as a Parent Corporation**

Defendants first move for summary judgment on plaintiffs’ claims against Textron, contending that Textron cannot be liable because it did not manufacture the airplane’s engine. Textron first claims it cannot be liable as a successor corporation of Lycoming, because Lycoming is still in existence. Plaintiffs respond that Textron can be liable for the acts of Lycoming, because Lycoming is merely an alter ego of Textron. In their reply brief, defendants seem to withdraw their successor-corporation argument, but instead contend that there is insufficient evidence from which a finder of fact could determine that Lycoming is an alter ego of Textron.

As a general rule, a corporation is not liable for the acts of other corporations, including its subsidiaries. *Greater Hammond Cmty. Servs., Inc. v. Mutka*, 735 N.E.2d 780, 784 (Ind. 2000). Indeed, under Indiana law, parent and subsidiary corporations are presumed separate. *Id.* To overcome this presumption a plaintiff must establish either that (1) “one corporation dominated another to the extent that the subordinate was the mere instrumentality of the dominant corporation”; (2) the dominant corporation employed the subordinate to perpetuate a fraud; or (3) the subordinate corporation’s capital was insufficient for the work to be done and the risks of loss. *Id.* Along with proving one of these elements, a plaintiff must also show that “the defalcation of the corporations . . . was the proximate cause of the injury sustained.” *Id.*

A court’s decision whether to use its equitable power to pierce the corporate veil is a fact-sensitive inquiry, and the party moving to pierce the veil bears the burden of proof. *Oliver v. Pinnacle Homes, Inc.*, 769 N.E.2d 1188, 1191 (Ind. App. 2002). A court can consider several factors in deciding whether to pierce the corporate veil, including:

- (1) whether the corporations used similar names;
- (2) whether the corporation shared common principal corporate officers;
- (3) whether the corporations’ business purposes were similar;

(4) whether the corporations were located in the same offices and used the same telephone numbers and business cards; or

(5) whether the corporations are manipulated or controlled as one enterprise to cause illegality, fraud, or injustice.

*Smith v. McLeod Distributing, Inc.*, 744 N.E.2d 459, 463 (Ind. App. 2000).

Here, plaintiffs allege that Lycoming, and its parent, Avco, are both alter egos of Textron. Specifically, plaintiffs contend that Avco conducts no business other than the direction of Lycoming, and that Textron in turn directs Lycoming by operating Avco. In support of these assertion, plaintiffs submit evidence that Avco owns the property that Lycoming lists as its address, and Avco's principal place of business is at the same location as Textron's world headquarters.

Additionally, the company website for Textron includes links to Lycoming as one of Textron's business segments, but omits reference to Avco. The website does include a reference to Avco in a footnote, stating that Lycoming is a division of Avco, which is a "wholly owned subsidiary of Textron Inc." A Textron legal due diligence report from 2007 does not describe any business activity by Avco other than business under the Lycoming name. Until 2002, Lycoming's name was Textron Lycoming Reciprocating Engine Division. Finally, several members of Avco's board of directors are also members of the boards of directors for both Lycoming and Textron Systems, which is also a division of Textron.

Defendants respond with evidence tending to show Textron's separate existence from Avco and Lycoming. However, the evidence adduced by plaintiffs could allow a jury to find that Lycoming and Avco are Textron's alter ego, and is sufficient to overcome defendants' motion. *See Smith*, 744 N.E.2d at 464-65 (evidence supported finding of alter-ego liability when, among other facts, the companies had similar names, were engaged in virtually identical lines of business, and had the same board of directors). Accordingly, I will deny Textron's motion for summary judgment. *See Fed. R. Civ. P. 56(e)*.

### **C. Plaintiffs' Product Liability Claims**

Defendants next move for summary judgment on plaintiffs' product liability claims, raising several issues under Indiana products liability law. Indiana has codified its common-law products liability rules in the Indiana Product Liability Act, which governs all actions brought by a consumer or user of a product against the product's manufacturer for physical harm caused by the product, regardless of the legal theory upon which the action is based. *See Ind. Code Ann. § 34-20-1-1 et seq.; Ford Motor Co. v. Rushford*, 868 N.E.2d 806, 809 (Ind. 2007). Accordingly, I must consider plaintiffs' strict-liability, negligence, and misrepresentation claims against the Textron defendants according to Indiana products-liability law.

Under the Products Liability Act, a defendant who manufactures or sells a product that is in a defective condition unreasonably dangerous to any consumer is liable for the consumer's physical harm only if:

- (1) the consumer is in the class of persons that the seller should reasonably foresee as being subject to the harm caused by the defective product;
- (2) the seller is engaged in the business of selling the product; and
- (3) the product is expected to and does reach the user or consumer without substantial alteration in the condition in which the product is sold.

Ind. Code. § 34-20-2-1. More specifically, a plaintiff prevails on a products-liability claim by establishing that: (1) the product was defective and unreasonably dangerous; (2) the product was defective at the time it left the defendant's control; and (3) the product's defect was the proximate cause of the plaintiff's injuries.

*Deaton v. Robison*, 878 N.E.2d 499, 501 (Ind. App. 2007).

The Act defines defective products as products in conditions that (1) are not contemplated by reasonable and expected consumers of the product, and (2) are unreasonably dangerous to the expected consumer when used in reasonably foreseeable ways of handling or consumption. Ind. Code § 34-20-4-1. "The requirement that the product be in a defective condition focuses on the product itself while the requirement that the product be unreasonably dangerous focuses on the reasonable expectations of the consumer." *Smock Materials Handling Co. v.*

*Kerr*, 719 N.E.2d 396, 401 (Ind. App. 1999) (internal quotation marks and citation omitted). A product is unreasonably dangerous if it is more dangerous than would be contemplated by the ordinary consumer with ordinary knowledge common to the community as to the product's characteristics. *Id.*

## **1. Rebuttable Presumption**

Defendants first assert that they are entitled to the presumption that their engine was not defective<sup>3</sup>, and that plaintiffs have no evidence to rebut that presumption. In response, plaintiffs deny that defendants are entitled to that presumption, and assert that, even if the presumption applies, plaintiffs have sufficient evidence to overcome it.

The Indiana Products Liability Act provides a rebuttable presumption that a product is not defective if, before the sale by the manufacturer, the product:

(1) was in conformity with the generally recognized state of the art applicable to the safety of the product at the time the product was designed, manufactured, packaged, and labeled; or

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<sup>3</sup>Defendants also contend in passing that plaintiffs' state-law claims are preempted by the Federal Aviation Act. The FAA, however, contains no express preemption clause, and several circuit courts considering this issue have held that Congress, in enacting the FAA, did not impliedly preempt all state-law personal injury actions arising from aviation accidents. *See generally, e.g., Martin ex rel. Heckman v. Midwest Exp. Holding, Inc.*, 555 F.3d 806 (9th Cir. 2009); *Cleveland ex rel. Cleveland v. Piper Aircraft Corp.*, 985 F.2d 1438 (10th Cir. 1993). Although 14 C.F.R. pt. 33 does provide some FAA regulations for engine materials, these regulations only specify that the materials used must be durable and must minimize the risk of fire or be fireproof. *See generally* 14 C.F.R. pt. 33, subpt. B. Most importantly, 14 C.F.R. pt. 33 does not provide any specific regulations for the materials used in fuel lines or fuel clamps, aside from requiring that they be fireproof. *See id.* In the absence of such regulations, I cannot conclude that engine fuel lines and clamps are so pervasively regulated that plaintiffs' claims are preempted. *See Martin*, 555 F.3d at 812.



(2) complied with applicable codes, standards, regulations, or specifications established, adopted, promulgated, or approved by the United States or by Indiana, or by an agency of the United States or Indiana.

Ind. Code Ann. § 34-20-5-1.

Indiana courts interpreting this statute have held that defendants are entitled to the presumption if they submit evidence of their compliance with an applicable federal safety statute or regulation. *E.g., McClain v. Chem-Lube Corp.*, 759 N.E.2d 1096, 1101-03 (Ind. App. 2001), *overruled on other grounds by Schultz v. Ford Motor Co.*, 857 N.E.2d 977, 986 (Ind. 2006); *Rogers ex rel. Rogers v. Cosco, Inc.*, 737 N.E.2d 1158, 1163, 1166-67 (Ind. App. 2000), *overruled on other grounds by Schultz*, 857 N.E.2d at 986; *see also Cansler v. Mills*, 765 N.E.2d 698, 705 (Ind. App. 2002), *overruled on other grounds by Schultz*, 857 N.E.2d at 986.

I need not decide whether the certificate defendants received entitles them to the presumption, because even if it did, defendants would still not be entitled to summary judgment. Plaintiffs have presented sufficient evidence of a defect to create a factual issue that must be resolved by a jury, whether the presumption applies or not. As discussed above, plaintiffs' experts opine that defendants defectively designed the engine to contain a chlorine-based rubber cushion and a stainless steel fuel line, and that this design eventually caused a hole in fuel line no. 5 through heat and engine vibrations. This evidence is admissible, and plaintiffs have sufficient evidence to go forward in this case. *See Cansler*, 765

N.E.2d at 701, 706-07 (presumption overcome in part because plaintiff's expert testified that automobile's airbag should have deployed based on expert's observation of other automobiles with similar front-end damage and deployed airbags); *McClain*, 759 N.E.2d at 1102-03 (presumption overcome when plaintiff's expert opined that defendant's product might violate OSHA formaldehyde emission standards at plaintiff's workplace).

For the same reasons, the Textron defendants' motion for summary judgment must be denied to the extent that defendants assert plaintiffs' theories of liability are speculative and unsupported, or because plaintiffs present no evidence of a design defect. *See* Fed. R. Civ. P. 56(e).

## **2. Substantial Alteration or Modification of Accident Engine**

The Textron defendants next move for summary judgment on plaintiffs' product liability claims, arguing that the engine was so substantially altered at the time of the crash that it relieved them of any liability. Plaintiffs and defendant Western Skyways respond that questions of material fact remain with respect to this defense.

Indiana Code § 34-20-6-5 provides defendants with a defense to products-liability actions if there is evidence that a modification or alteration made by any person after defendant's initial sale of the product "is the proximate cause of the physical harm where the modification is not reasonably expectable to the seller."

A substantial modification or alteration is defined as “any change which increases the likelihood of a malfunction, which is the proximate cause of the harm complained of, and which is independent of the expected and intended use to which the product is put.” *Montgomery Ward & Co. v. Gregg*, 554 N.E.2d 1145, 1157 (Ind. App. 1990) (citation omitted); *see also Schooley v. Ingersoll Rand, Inc.*, 631 N.E.2d 932, 938 (Ind. App. 1994) (in determining whether modification or alteration of a product extinguishes defendant’s liability, “[t]he question involved is whether the alteration of the product was a superseding cause.”) (internal quotation marks and citation omitted). The question of the foreseeability of the modification or alteration is ordinarily a question for the finder of fact. *See Wolfe v. Stork RMS-Protecon, Inc.*, 683 N.E.2d 264, 268 (Ind. App. 1997).

In support of their motion, the Textron defendants adduce evidence showing that the engine was recovered with its model number and data plate changed, and that the engine contained parts, including aluminum clamps, that were not manufactured by Lycoming. Additionally, these defendants claim they have uncontroverted evidence that the fuel lines used in the plane were not Lycoming parts. However, plaintiffs and defendant Western Skyways have adduced evidence in their responses showing that questions of fact remain as to whether the engine’s fuel lines were manufactured by Lycoming, and whether the changes made to the engine were foreseeable. Moreover, plaintiffs’ claims against the

Textron defendants arise from these defendants' design of a chlorine-based rubber cushion on a stainless steel fuel line, and there is no evidence that the rubber cushion was altered or modified. Finally, aside from their own speculation, the Textron defendants present no evidence that the changes to the engine's model number and data plate and the use of aluminum clamps was the superseding cause of the crash. *See Schooley*, 631 N.E.2d at 938. Because these issues of fact remain, summary judgment on this issue is inappropriate. *See Fed. R. Civ. P. 56(e); Schooley*, 631 N.E.2d at 938.

### **3. Misrepresentation Claims**

Next, the Textron defendants move for summary judgment on plaintiffs' misrepresentation claim, asserting plaintiffs have no evidence that defendants committed any fraud or material misrepresentation, or that plaintiffs' decedents relied on a misrepresentation by defendants. Defendants' motion is well taken. Under Indiana law, the elements of a misrepresentation claim include: (1) defendant's material misrepresentation about a past or existing fact; (2) which was false; (3) which was made with knowledge or reckless ignorance of the falseness; (4) which was relied upon by the plaintiff; and (5) which proximately caused the plaintiff's injury. *See Rice v. Strunk*, 670 N.E.2d 1280, 1289 (Ind. 1996). Here, there is no evidence that defendants made any misrepresentations to plaintiffs' decedents, or that plaintiffs' decedents relied on any false statements by

defendants. Rather, plaintiffs rely on evidence which they believe shows that defendants mislead the FAA about the safety of its engines. Even if the defendants mislead the FAA, however, that does not support plaintiffs' misrepresentation claim, because a plaintiff must show that defendants made a misrepresentation on which plaintiff relied to prevail on this claim. *See id.* Because plaintiffs adduce no other evidence supporting their misrepresentation claim, I must grant defendants' motion for summary judgment and dismiss on this claim.

#### **D. The General Aviation Revitalization Act**

The Textron defendants next contend that plaintiffs' claims are barred by the eighteen-year statute of repose contained in the General Aviation Revitalization Act of 1994 ("GARA"). Pub. L. No. 103-298, 108 Stat. 1552 (1994) (codified as amended at 49 U.S.C. § 40101). GARA applies to this case because this is a "civil action for damages for death or injury to persons arising out of an accident involving a general aviation aircraft." *See id.* § 2(a). In such actions, GARA provides an eighteen-year statute of repose, requiring plaintiffs to bring their claims against manufacturers within eighteen years of either (1) the date of delivery of the aircraft to its first purchaser, or (2) the date of installation of a new part that is alleged to have caused the death or injury. *Id.*

Here, it is undisputed that the accident engine was originally manufactured by Lycoming in 1975. However, plaintiffs have adduced sufficient evidence from which a finder of fact could determine that (1) the Textron defendants defectively designed the engine to include a stainless steel fuel line and a chlorine-based rubber cushion, and (2) those parts were supplied by the Textron defendants and installed by defendant Western Skyways in the accident airplane engine in 2001. It is undisputed that plaintiffs brought this action against the Textron defendants in 2007 – well within GARA’s eighteen-year statute of repose. Accordingly, GARA’s statute of repose does not bar plaintiffs’ claims, and defendants’ motion for summary judgment is denied on this ground. Because I determine that this case was brought within GARA’s statute of repose, I need not consider whether the exception to that statute of repose contained in GARA’s § 2(b) applies in this case.

#### **E. Indiana Statute of Repose**

Similarly, the Textron defendants contend that Indiana’s ten-year statute of repose bars plaintiffs’ claims. Indiana Code § 34-20-3-1(b)(2) requires plaintiffs to bring their product-liability actions “within ten (10) years after the delivery of the product to the initial user or consumer.” However, similar to GARA, the Indiana statute of repose is restarted if a defendant manufactures or supplies replacement parts that are themselves alleged to be defective and the cause of

plaintiffs' injuries. *See Black v. Henry Pratt Co.*, 778 F.2d 1278, 1283 (7th Cir. 1985) (determining that Indiana's products liability statute of repose would restart on the day of sale of replacement parts if replacement parts were "unreasonably dangerous and thus defective under Indiana law."). Because plaintiffs have sufficient evidence that the Lycoming stainless steel fuel line and rubber cushion installed in 2001 were defective, Indiana's statute of repose does not bar plaintiffs' claim. *See* Ind. Code Ann. § 34-20-3-1; *Black*, 778 F.2d at 1283. Accordingly, I must deny the Textron defendants' motion for summary judgment on this ground.

#### **IV. Defendant Western Skyway's Motion for Summary Judgment**

Defendant Western Skyways moves for summary judgment on all of plaintiffs' claims, asserting that plaintiffs have insufficient evidence to prove causation. Specifically, Western Skyways asserts that plaintiffs adduce no evidence that the accident engine reached a high enough temperature for the chlorine in the rubber cushion to form hydrochloric acid and corrode the stainless steel. Without this evidence, Western Skyways contends, plaintiffs fail to show causation.

Western Skyways is correct that causation is an element on which plaintiffs bear the burden of proof for their negligence claim. *See Ford Motor Co. v. Rushford*, 868 N.E.2d 806, 810 (Ind. 2007) (to prevail on negligence claim, plaintiff must show that her injury was proximately caused by defendant's breach).

Under Indiana law, “[p]roximate cause has two components: causation-in-fact and scope of liability.” *Kovach v. Caligor Midwest*, 913 N.E.2d 193, 197 (Ind. 2009) (internal quotation marks omitted). A plaintiff establishes causation-in-fact by showing that, but for defendant’s actions, plaintiff would not have been injured. *Id.* at 197-98. Scope of liability is established if plaintiff shows that “the injury was a natural and probable consequence of the defendant’s conduct, which in the light of the circumstances, should have been foreseen or anticipated.” *Id.* at 198.

Here, Western is correct that plaintiffs have not submitted direct evidence that the temperatures in the aircraft engine were high enough for the rubber cushion to release chlorine and form hydrochloric acid. Even in the absence of this evidence, however, plaintiffs have adduced sufficient circumstantial evidence of this event. Specifically, they adduce evidence that (1) an in-flight fire occurred after gas leaked from a hole in fuel line no. 5, (2) the hole formed after engine vibrations caused an aluminum clamp to rub against the fuel line, and (3) the rubber cushion’s chlorine ions formed hydrochloric acid. Additionally, plaintiffs have sufficient evidence that Western improperly installed the engine’s crankshaft, which contributed to the engine’s vibrations. This is sufficient evidence of causation, and Western’s motion is denied. *Cf. Westchester Fire Ins. Co. v. American Wood Fibers, Inc.*, No. 2:03-CV-178-TS, 2006 WL 752584, at \*13 (N.D. Ind. Mar. 21, 2006) (sufficient evidence of causation in manufacturing



products-liability case against defendant manufacturer when plaintiff adduced enough circumstantial evidence supporting liability theory for factfinder to draw reasonable inference of causation).

## **V. Plaintiffs' Motion for Summary Judgment**

In their amended answers, both the Textron defendants and Western Skyways assert as affirmative defenses the fault of nonparties to this litigation. Plaintiffs now move for summary judgment on those defenses. Under Indiana law, defendants may assert a “nonparty” defense and may ask the jury to assess fault to a nonparty to the litigation other than defendant, if that nonparty caused plaintiff’s damages in full or in part. Ind. Code. § 34-51-2-14; *Owens Corning Fiberglass Corp v. Cobb*, 754 N.E.2d 905, 911 (Ind. 2001); *see also* Ind. Code § 34-51-2-7 (in comparative fault cases, “the jury shall determine the percentage of fault of the claimant, of the defendant, and of any person who is a nonparty.”). For this defense, the “burden of proof of a nonparty defense is upon the defendant.” *Id.* § 34-51-2-15; *see also Zambrana v. Armenta*, 819 N.E.2d 881, 890 (Ind. App. 2005) (court did not need to assess fault against nonparties because defendant adduced no evidence of nonparties’ fault).

In this case, all defendants respond to plaintiffs’ motion with evidence that the runway lights at the Wabash Airport were malfunctioning on the night of the crash. It is also undisputed that the Wabash Board of Aviation Commissioners,

the City of Wabash, and Northern Indiana Aviation LLC were responsible for maintaining these runway lights, not defendants. Applying Indiana law, I conclude that defendants have submitted sufficient evidence of these nonparties' fault to survive plaintiffs' motion for summary judgment on their non-party defense. *See* Ind. Code §§ 34-51-2-14 & 34-51-2-15; *Owens Corning*, 754 N.E.2d at 913.

Defendant Western Skyways also points to the actions of unnamed air mechanics who certified the accident engine as airworthy between 2001 – when Western Skyways rehailed the engine – and 2005, when the airplane crashed. According to Western Skyways, if the jury determines Western Skyways was negligent for overhauling the engine with incorrect parts and certifying the engine as airworthy even as it contained these parts, these nonparties must have been negligent for certifying the engine in the interim between the overhaul and the crash. However, Western Skyways neither names these nonparties nor adduces any evidence showing their negligence in its response. Western Skyways carries the burden of proving this defense at trial, and should have presented some evidence to support the defense in response to plaintiffs' motion. *See* Ind. Code

§34-51-2-15; *Zambrana*, 819 N.E.2d at 890. As a result, plaintiffs' motion will be granted as to the fault of these nonparty air mechanics and maintenance workers.<sup>4</sup>

Accordingly,

**IT IS HEREBY ORDERED** that defendants' motions to exclude plaintiffs' expert Patrick McGinley [#194, #228] are granted. Defendants' motions to exclude plaintiffs' experts Donald Sommer [#211, #224], Allen Fiedler [#199, #215], Arthur Coffman [#206, #230], Dr. Brian Frist [#201 #221], and William Partin [#214, #226] are granted in part and denied in part, as explained in this Memorandum & Order. Defendants' motions to exclude Dr. Richard McSwain [#204, #217] and Mark Seader [#209] are denied.

**IT IS FURTHER ORDERED** that plaintiffs' motions to exclude defendants' expert Scott Shappell [#192] is granted; that plaintiffs' motions to exclude defendants' experts William Jeffrey Edwards [#202] and Dr. Alan Parmet [#207] are granted in part and denied in part, as explained in this Memorandum & Order; and that plaintiffs' motions to exclude defendants' experts Dr. Dan Heffez [#190], Robert Winn [#191], and Thomas Eager [#205] are denied.

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<sup>4</sup>The affirmative defenses list a number of nonparties as well as defendants who have been dismissed and defendants who have not been dismissed but who counsel keep saying will be dismissed. The briefs do not address anyone other than the nonparties discussed above, but because defendants came forward with no evidence in support of the defense, the summary judgment order extends to any entity listed in the defenses who meets the Indiana law definition of a "nonparty."

**IT IS FURTHER ORDERED** that defendants Textron, Avco, and Lycoming's motion for sanctions and to amend motion [#193, 219] are denied.

**IT IS FURTHER ORDERED** that defendants Textron, Avco, and Lycoming's motion for summary judgment [#196] is granted in part and denied in part consistent with this Memorandum & Order. Count XIII of plaintiffs' complaint is dismissed with prejudice, and Kari Johnson and Dundee Graves are dismissed as plaintiffs, as their claims are subsumed in those brought by the personal representatives.

**IT IS FURTHER ORDERED** that defendant Western Skyways's motion for summary judgment [#232] is denied, and its motion to exclude [#231] is denied.

**IT IS FURTHER ORDERED** that plaintiffs' motion for summary judgment [#223] is granted with regard to all nonparties listed in the affirmative defenses.

**IT IS FURTHER ORDERED** that the parties' motions to strike the untimely expert reports, opinions, documents, and affidavits [#213, #297, #305, #307] are all denied.



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CATHERINE D. PERRY  
UNITED STATES DISTRICT JUDGE

Dated this 6th day of April, 2010.